

### **REMARKS**

Claims 3-20 and 22-23 are now pending in the application. Claims 1, 2 and 21 have been cancelled. Claims 2, 14-17, and 20 have been amended. Claims 22-23 have been added as new. No new matter has been added as the amendments are supported by the specification, claims, and drawings as originally filed. The Examiner is respectfully requested to reconsider and withdraw the rejection in view of the amendments and remarks contained herein.

### **REJECTION UNDER 35 U.S.C. § 103**

Claims 3-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Leung et al. (U.S. Pub. No. 2003/0087653 A1) in view of Nakagawa et al. (U.S. Pat. No. 6,256,508 B1) and Leung (U.S. Pub. No. 2003/0078044 A1). Claims 14-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Leung et al. (U.S. Pub. No. 2003/0087653 A1, and U.S. Pat. No. 5,101,101 incorporated by Leung) as applied to claim 1 above and further in view of Nakagawa et al. These rejections are respectfully traversed.

Claim 3 recites, among other things, that the downlink special carrier frequency is different from the carrier frequency of the original service hierarchy and is not used for bearing original services. Therefore, the original services and the real-time broadcast services may not interfere with each other.

Leung 653 at best discloses that “the channel structure is consistent with the cdma2000 standard wherein the Forward Supplemental Channel (F-SCH) supports data

transmissions". Channels such as F-SCHs and F-FCHs are typically used for transmitting original services, such as speech communication, data transmission, wireless internet, and video on command in a communication system. In Leung 653, channels such as F-SCHs and F-FCHs are used for transmitting broadcast services, as well. According to the cdma2000 standard, channels such as F-SCHs and F-FCHs are born on a same frequency. That is, original services and broadcast services are borne on the same frequency in Leung 653.

Claim 3 also recites, among other things, that all the cells of the broadcast service hierarchy employ a same downlink special carrier frequency. Leung 653, on the other hand, at best discloses that a single HSBS channel is provided on different frequencies to serve subscribers in those frequencies (see Leung 653, [0050]).

Claim 3 also recites, among other things, that the same content of the real-time broadcast services are transmitted in the cells of the broadcast service hierarchy. Since the same content of the real-time broadcast services are transmitted in the cells of the broadcast service hierarchy, it is unnecessary to consider how to avoid RF interference in different cells for the real-time broadcast services. Moreover, in claim 3, the adjacent cells employ different scrambling codes for transmitting the same content of the real-time broadcast services. Whereas, Nakagawa appears to disclose that different broadcasting program signals for each local area broadcasting are transmitted based on the SS modulation method by using a different spreading code (see Nakagawa, col. 6, lines 15-31; figure 9).

Claim 3 also discloses, among other things, an original service hierarchy and a broadcast service hierarchy. The original service hierarchy has carrier frequencies for providing original services, while the broadcast service hierarchy has a downlink special carrier frequency. Moreover, the original service hierarchy and the broadcast service hierarchy have their own cell division, respectively. That is, each hierarchy has its own frequency allocation and cell division.

Leung 653 is at best directed to provide a real-time broadcast service in a mobile communication system. However, Leung 653 does not teach or suggest setting two hierarchies in a same mobile communication system and adopting one hierarchy for providing a real-time broadcast service as recited in claim 3. Even if Leung 653 and Nakagawa and Leung 044 are taken into account in combination, the broadcast service hierarchy disclosed in claim 3 could not be obtained.

Claim 14 recites, among other things, that a downlink special scrambling code is assigned for the broadcast service hierarchy, and broadcasting the real-time broadcast service. Leung 653, on the other hand, at best discloses that the broadcast channel refers to a single forward link physical channel, i.e., a given Walsh Code that carries broadcast traffic (see Leung 653, [0049]).

The attached "3GPP TS 25.213 V3.6.0 (2001-06)", section 4.1, page 7 states that "Spreading is applied to the physical channels. It consists of two operations. The first is the channelization operation. The second operation is the scrambling operation, where a scrambling code is applied to the spread signal... With the channelization, data symbols on so-called I- and Q-branches are independently multiplied with an

Orthogonal Variable Spreading Factor (OVSF) code”. Section 4.3.1, page 10 discloses codes shown in Figure 4 which are Walsh codes, which would be recognized by those skilled in the art. That is, although both Walsh codes and scrambling codes are spreading codes, Walsh codes are spreading codes for channelization operation, and scrambling codes are spreading codes for scrambling operation, i.e., Walsh codes are different from scrambling codes.

Moreover, the spreading procedure of cdma2000 standard (see references mentioned in Leung 653, for example, para. [0040], [0045], [0053]) is the same as WCDMA standard illustrated in 3GPP TS 25.213 except that in cdma2000 the scrambling code is “m sequence” but in WCDMA the scrambling code is “Gold sequence”. It will be recognized by those skilled in the art that neither “m sequence” nor “Gold sequence” is the same as Walsh codes. Therefore, Leung 653 does not teach or suggest claim 14.

Claim 14 also recites, among other things, that the cells of the broadcast service hierarchy utilize the same downlink special scrambling code for transmitting the real-time broadcast service. Thus, every cell in the broadcast service hierarchy can transmit a same wave form, whereas in Leung 653 it is impossible to do that.

Claim 14, also recites, among other things, that two hierarchies, i.e., an original service hierarchy and a broadcast service hierarchy. The original service hierarchy has scrambling codes for providing original services, while the broadcast service hierarchy has a downlink special scrambling code. Moreover, the original service hierarchy and

the broadcast service hierarchy have their own cell division, respectively. That is, each hierarchy has its own scrambling code assignment and cell division.

Leung 653 is at best directed to provide a real-time broadcast service in a mobile communication system. However, Leung 653 does not disclose setting two hierarchies in a same mobile communication system and adopting one hierarchy for providing a real-time broadcast service as claim 14 does. In other words, claim 14 has not been disclosed in Leung 653. Even if Leung 653 and Nakagawa and Leung 044 are taken into account in combination, the broadcast service hierarchy disclosed in claim 15 could not be obtained.

In view of the foregoing, Applicant respectfully submits that Leung 653, Nakagawa, or Leung 044 do not teach nor suggest the claim 3 or claim 14. Likewise, because claims 4-13 and 22 depend from claim 3, and claims 15-20 and 23 depend from claim 14, Applicant respectfully submits that claims 3-20 and 22-23 define over the art cited by the Examiner. Thus, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. §103.

### **CONCLUSION**

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and

favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

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Respectfully submitted,

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